

The proposed transaction also does not significantly affect MCI WorldCom's incentive to serve wholesale customers. This is because the risk that wholesale capacity sold to resellers will be used to win existing MCI WorldCom retail customers appears to be limited, as reflected in the fact that resellers' gains have disproportionately come at the expense of AT&T. (Para. 8)

80. They note that if 10 percent of minutes sold at wholesale were captured from MCI/WorldCom, rather than the 14 percent share we used in the illustrative example from our initial affidavit,⁶⁹ then MCI/WorldCom would be better off selling the traffic at wholesale. This may be true as a matter of arithmetic. However, they ignore that MCI's growth has slowed, in part, because of the resellers' gains; and, they ignore more recent evidence on MCI's share loss.

81. First, an examination of how the relationship between WorldCom and resellers affects MCI should consider how much more MCI could have gained at retail had it not been for the presence of resellers working with WorldCom. Even if, as Drs. Carlton and Sider say (para 55-58), resellers' recent share gains came disproportionately from AT&T, MCI was affected because it could have captured more profits (via higher prices and/or a higher share) absent the competition from resellers. From Q1 84 to Q1 92 (the quarter in which Drs. Carlton and Sider begin their analysis), MCI's revenue share more than tripled, from 5.0 to 16.5 percent, while its growth was much slower thereafter. In comparison, WorldCom and the others grew by 9.0 percentage points from Q 1 84 to Q 1 92, when MCI was achieving its rapid gains, but they grew by 15.7 percentage points from Q1 92 to Q 4 97, when MCI's share grew by only 2.1 percentage points.⁷⁰ This pattern clearly suggests that the merged company would have an incentive to raise prices to resellers because doing so would allow the merged company to slow the growth of these competitors and speed up its own.

82. Second, annual data for 1996 to 1997 show that: MCI's market share declined by 0.6 percentage point, Sprint remained the same and AT&T lost about 3.4 percentage points of share to the other carriers. Thus, the most recent annual data show that MCI's share loss was about 15 percent of the total share loss by the Big Three.⁷¹

C. Market power vis-à-vis GTE

83. According to Drs. Carlton and Sider, if GTE is correct that WorldCom "is uniquely positioned to supply wholesale services to GTE, then WorldCom today is, from GTE's perspective, a monopoly supplier of wholesale services and is already extracting a

⁶⁹ See our initial affidavit, para. 61.

⁷⁰ FCC Long Distance Market Shares, First Quarter 1998, June 1998, Table 3.5. We do not report first quarter 1998 results because the FCC began to include MCI's local revenues as part of MCI's quarterly revenues in that quarter.

⁷¹ FCC Long Distance Market Shares, First Quarter 1998, June 1998, Table 3.2.

monopoly premium from GTE, leaving GTE indifferent between using WorldCom and other wholesale providers.”⁷²

84. This allegation is conceptually flawed and it is inconsistent with Drs. Carlton and Sider’s argument that the supply of wholesale services is effectively competitive. If WorldCom were charging a monopoly price to GTE, then WorldCom is presumably maximizing its profits based on its current incentives and opportunities. If they are correct that WorldCom has a monopoly (or market power), then when WorldCom’s costs go up because its merger with MCI would increase its opportunity cost, its profit maximizing price would also increase. Thus, the merger would harm competition because the entrants are higher cost and/or lower quality from the perspective of GTE and of other resellers with similar requirements (those with strong preferences for—i.e., low cross elasticity of demand for—WorldCom’s services compared to those of the entrants). In other words, WorldCom may be charging a profit-maximizing price based on its current circumstances, in which it needs retail partners to reach residence and low-volume business customers. However, that price would increase after the merger because MCI/WorldCom would be able to reach end users through MCI’s retail distribution system. Further, if it can increase the input prices paid by the resellers—which should be easier because of the substantial increase in concentration in the wholesale and the high-volume business markets—then the merged company could benefit both by extracting more profit from wholesale and from increasing its retail profits. Finally, to the extent that the entrants depend on MCI or WorldCom for capacity to the less dense areas, MCI/WorldCom could raise the wholesale prices of these competitors by increasing their input costs.

85. Indeed, the likely change in WorldCom’s incentives is signaled by its recent financial filings. In our initial affidavit, we noted that, unlike MCI, WorldCom’s earlier annual reports stated that the wholesale market was a key part of WorldCom’s strategy.⁷³ In contrast, the proposed merger seems to have begun to erode WorldCom’s commitment to this market. According to its most recent 10-K:

The Company's strategy is to become a fully integrated communications company that would be well positioned to take advantage of growth opportunities in global telecommunications. Consistent with this strategy, the Company believes that transactions such as the CompuServe Merger, the AOL Transaction, the BFP Merger, and, if consummated, the MCI/WorldCom Merger, enhance the combined entity's opportunities for future growth, create a stronger competitor in the changing telecommunications industry, allow provision of end-to-end bundled service over global networks, and provide the opportunity for significant cost savings and operating efficiencies for the combined organization.⁷⁴

⁷² Carlton and Sider, para 71.

⁷³ See initial affidavit of Schmalensee and Taylor, Section IV (A)(1)(a).

⁷⁴ WorldCom 10k for fiscal year 1997, March 1998, p.5.

86. WorldCom does not even mention wholesale in this strategy statement. In previous years, WorldCom has explicitly stated its intent to pursue the wholesale market.⁷⁵

D. As Drs. Carlton and Sider recognize, WorldCom has placed a much greater emphasis on wholesale than MCI has.

87. Drs. Carlton and Sider acknowledge that "the share of revenue accounted for by wholesale services is greater for WorldCom than for AT&T, Sprint and MCI."⁷⁶ We should also point out that WorldCom's share of wholesale revenues is greater than any of these carriers' shares. For example, data from our initial affidavit show that WorldCom has actively courted, and succeeded in capturing, a disproportionate share of the wholesale market. In contrast, MCI has apparently not actively pursued that market. As we stated in our initial affidavit, WorldCom's share of the wholesale revenues is 37.8 percent, while MCI's is only 9 percent.⁷⁷

88. MCI's negative attitude towards selling to resellers has been revealed in its dealings with GTE. According to Debra R. Covey, GTE's Vice President of Operations Support for its long-distance and other services, and former Sprint executive:

- WorldCom "has been particularly aggressive in pricing to GTE Communications and other larger resellers...because WorldCom has not as actively retailed its long-distance service to residential and small business customers as have AT&T, MCI and Sprint."
- In contrast, MCI was "reluctant to jeopardize their retail marketing position by allowing resellers to purchase products they were marketing themselves on a retail basis."
- WorldCom was "aggressive ... offering services required by resellers looking to rebrand their products." Allowing GTE to sell under its own brand allows it to offer one-stop-shopping and gain more lasting customer relationships.

⁷⁵ For example in its 1995 10-K, WorldCom states that:

The Company has become a significant participant in the long distance wholesale market and intends to pursue opportunities, if any, for continued expansion in this area. While total revenues in the wholesale market are less than from commercial customers, expenses are generally reduced in servicing these customers as the result of fewer invoices, fewer customer service personnel and a smaller sales force. (p. 1 of electronic filing)

And, in its 1996 annual report WorldCom stated that "WorldCom also signed two of the largest wholesale carrier contracts in the company's history. We remain fully committed to our wholesale services customer base – and to expanding our related product offerings to enable our wholesale customers to remain competitive." (p. 3)

⁷⁶ Carlton and Sider, para 53.

⁷⁷ See Exhibit 8 of our initial affidavit.

- In contrast, “when MCI views a product as a differentiator for its own retail offering, it has ... been unwilling to make it available for branded resale.”
- WorldCom has begun to develop enhanced wholesale business services for resellers.
- In contrast, “[I]n most cases, MCI has chosen not to make these [enhanced services] available through its wholesale offering.” In other cases MCI has priced its services so that GTE could not sell them at a profit.⁷⁸

89. Ms. Covey also testified that AT&T’s wholesale pricing was generally not competitive; and that until WorldCom offered its “unique wholesale opportunity” to GTE when it was preparing to enter the long-distance market, Sprint had not aggressively pursued wholesale sales.⁷⁹

90. Thus, notwithstanding the theoretical arguments that Drs. Carlton and Sider present regarding incentives, the other three major IXC’s (especially MCI) have clearly shown that their incentives differ from WorldCom’s. (If not, it is difficult to believe that the incumbents would have allowed WorldCom to capture so much of the wholesale market.) Thus, WorldCom’s incentives to aggressively pursue the wholesale market would likely be diminished as a result of the merger. And, with the diminution of WorldCom’s wholesale activities, Sprint and AT&T would have even less of an incentive to aggressively pursue wholesale business.

91. Financial analysts have recognized that WorldCom’s maverick role could change as a result of the merger:

“WorldCom in the past was a renegade. [The merger] catapults WorldCom into a player with a greater vested interest in industry stability.”

...Almost every company WorldCom has acquired so far was something of an entrepreneurial start-up. MCI was that once but has been part of the establishment for at least a decade.⁸⁰

⁷⁸ Testimony of Debra R. Covey in Colorado Docket No. 97 A-494T, pp.3, 5, 7, 9, 10 and 12.

⁷⁹ *Ibid.*, p. 5.

⁸⁰ Seth Schiesel, quoting Merrill Lynch analyst Daniel P. Reingold, “The Re-engineering of Bernie Ebbers: After Buying Spree, WorldCom Chief Must Learn to Run What He Has Built,” *New York Times*, April 27, 1998, D-5.

IV. RESELLERS HAVE BEEN AN INCREASINGLY IMPORTANT SOURCE OF PRICE COMPETITION FOR RESIDENCE AND LOW-VOLUME BUSINESS CONSUMERS.

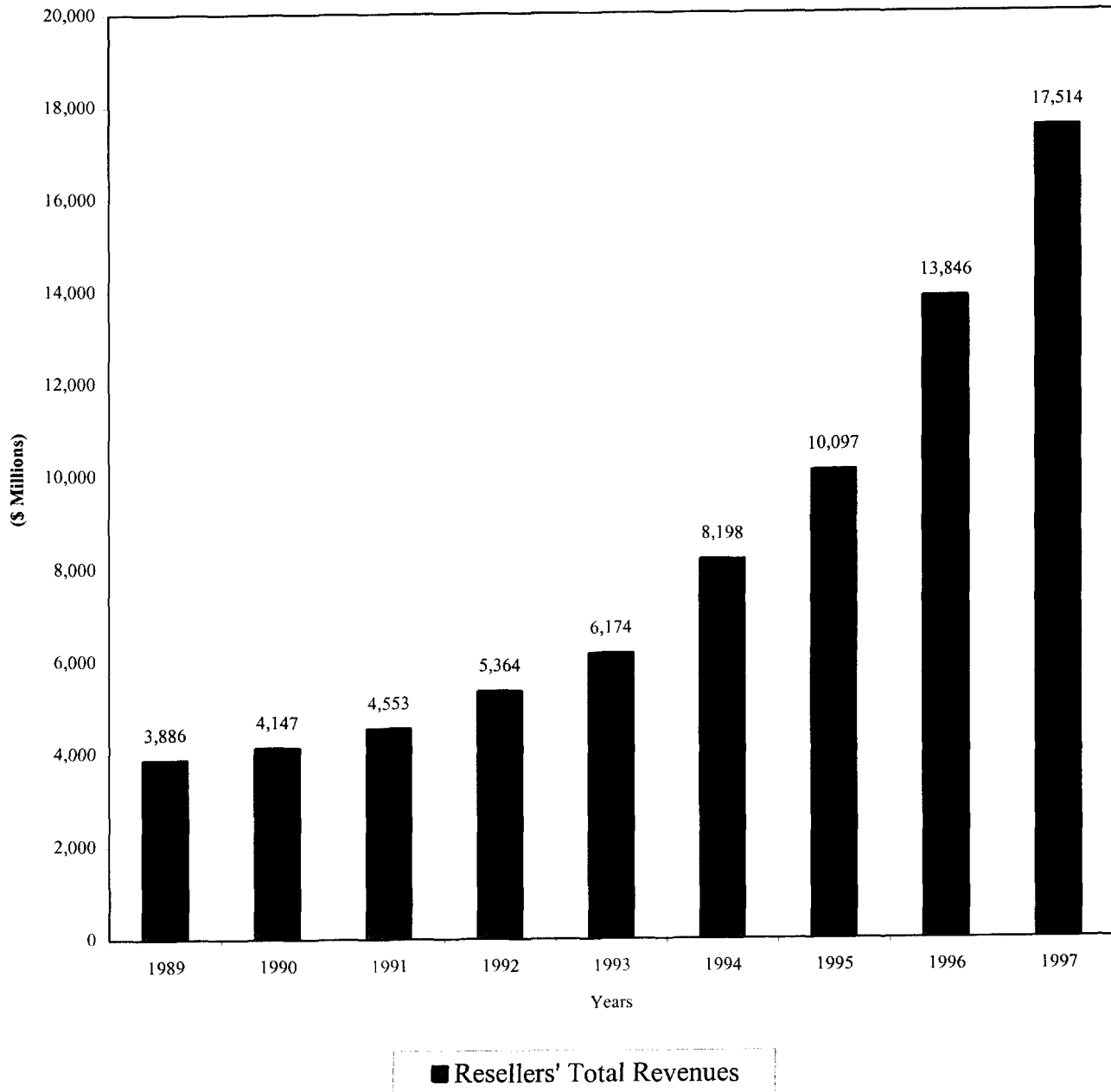
A. Resellers have grown in importance and WorldCom has become an increasingly important supplier to resellers.

92. As reported in Section I above, resellers accounted for about 25 percent of 1997 residence and low-volume business revenues. Their growing importance in long distance markets has come as WorldCom has become an increasingly important source of wholesale services to resellers.

- As shown in Exhibit 5, FCC data show that resellers' total long distance revenues have grown substantially from about \$3.9 billion in 1989 to \$17.5 billion in 1997. (The available data do not permit us to estimate resellers' share of the residence and low-volume business revenues over time.)
- The dramatic growth of resellers has been associated with the even more impressive growth of WorldCom's wholesale revenues, from \$347 million in 1989 to about \$1.8 billion in 1997. (See Exhibit 6.)
- WorldCom's growing importance as a wholesale provider resulted in WorldCom tripling its share of wholesale long distance revenues from about 13 percent in 1989 to about 38 percent in 1997. (See Exhibit 7.)

Exhibit 5

**The Growing Role of Resellers:
Resellers Total Revenues,
1989-97**

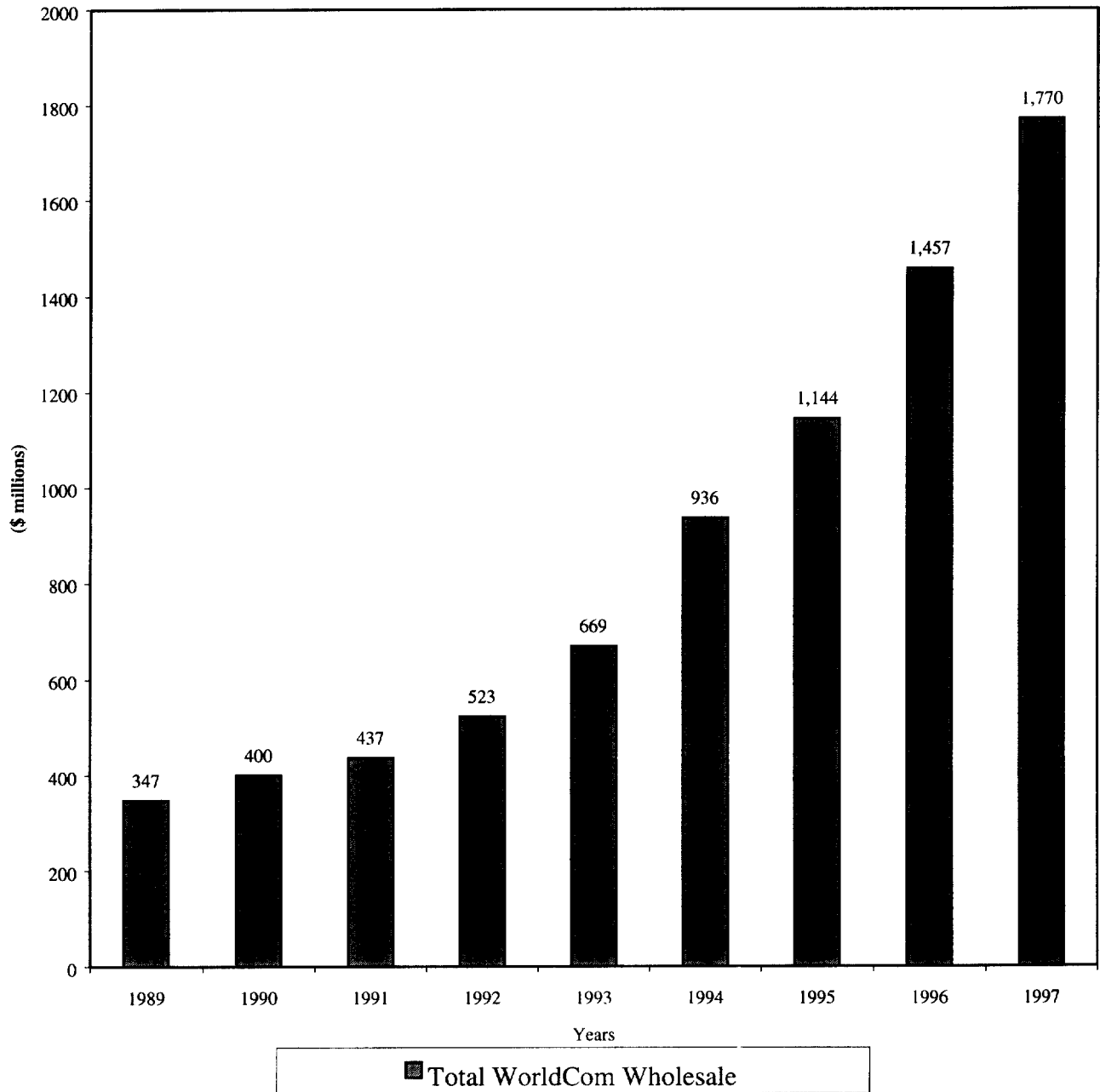


Source:

FCC, Long Distance Market Shares, First Quarter 1998, June 1998, Table 3.1. We define Resellers as firms other than AT&T, MCI, Sprint and WorldCom.

Exhibit 6

WorldCom's Rise as a Wholesale Long Distance Provider: WorldCom's Wholesale Revenues, 1989-97



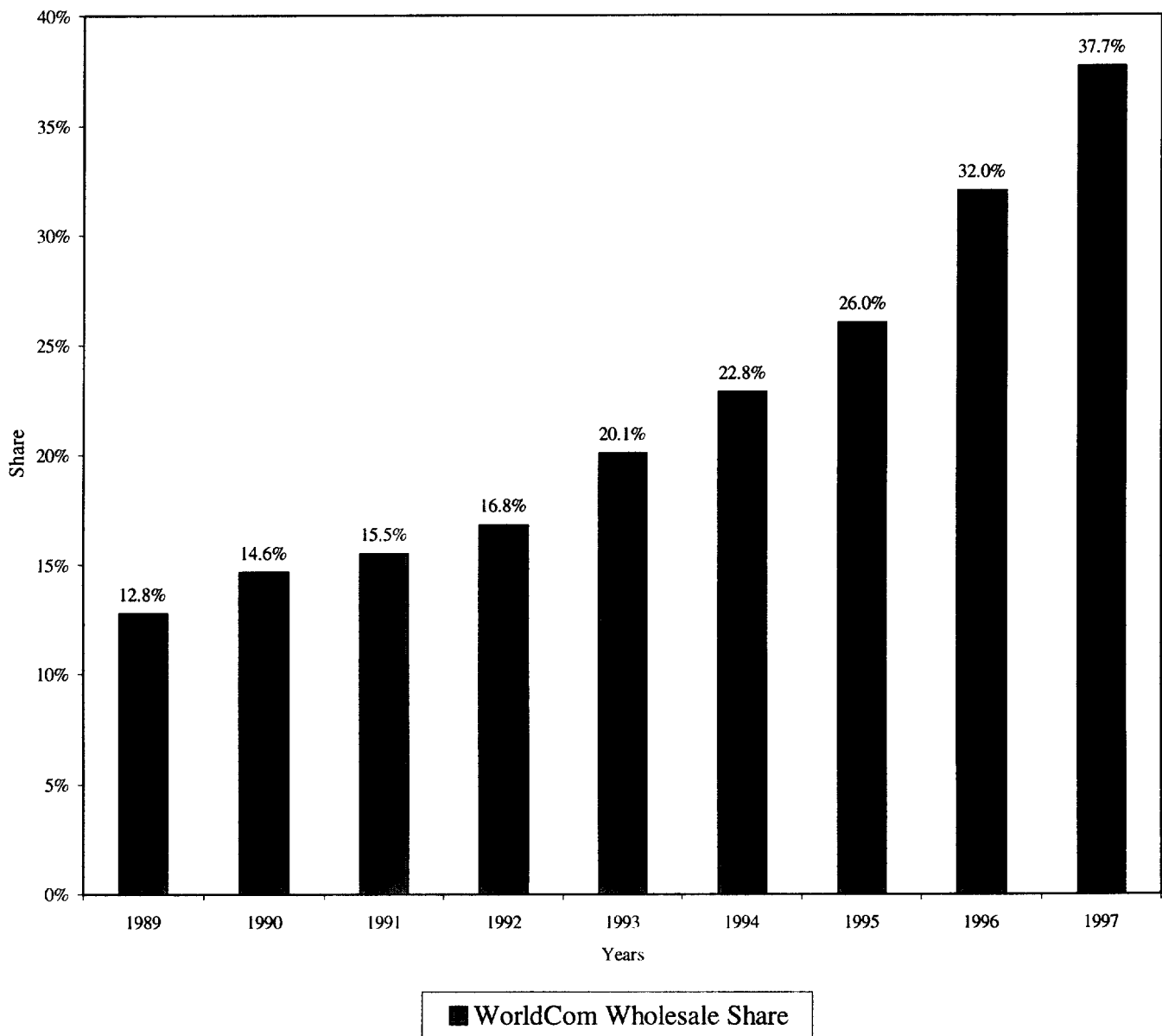
Source:

"U.S. Business Long-Distance Review" The Yankee Group, Volume #: 11, issue# 103, December 1996, p.11.

"Resale: A \$10 Billion Footnote to the Long Distance Market" The Yankee Group, Volume # 11, Issue #4, March 1996, p.4. Frost & Sullivan data, February 1998, FCC, Long Distance Market Shares, First Quarter 1998, June 1998, Table 3.1.

Exhibit 7

WorldCom's Rise as a Wholesale Long Distance Provider: WorldCom's Share of Wholesale Revenues, 1989-97



Source:

"U.S. Business Long-Distance Review" The Yankee Group, Volume #: 11, issue# 103, December 1996, p.11.

"Resale: A \$10 Billion Footnote to the Long Distance Market" The Yankee Group, Volume # 11, Issue #4, March 1996, p.4.
Frost & Sullivan data, February 1998, FCC, Long Distance Market Shares, First Quarter 1998, June 1998, Table 3.1.

B. Recent data show that the resellers offer competitively priced alternatives to the Big Three's oligopolistic pricing.

1. Comparisons of average revenue per minute show resellers continue to price substantially below the Big Three.

93. In our initial affidavit, based on 1996 data, we reported that major resellers on average charged lower residential rates than the "Big Three." We also found that the resellers' pricing was an important means of undermining the Big Three's oligopolistic pricing; and that resellers had been capturing a growing share of long-distance markets. Data for 1997 indicate that resellers continue to undermine the oligopolistic pricing of the Big Three by charging substantially lower rates.

94. For example, average revenue per minute (ARPM) for the major resellers was more than 2 cents per minute or 14 percent lower than the Big Three's ARPM in both 1996 and 1997. More generally, as shown in the table below, for each of the usage groups, the resellers' ARPM is lower than the ARPM for the Big Three.⁸¹ Furthermore, the ARPM data suggest that the Big Three raised rates faced by low-use residence customers (with 1-40 minutes of use per month) by almost 2 cents per minute, while resellers' ARPM for this group declined by about 2 cents per minute over the same time period. These changes brought the resellers' ARPM for the low-usage group to more than seven cents per minute below the Big Three's ARPM for this group.

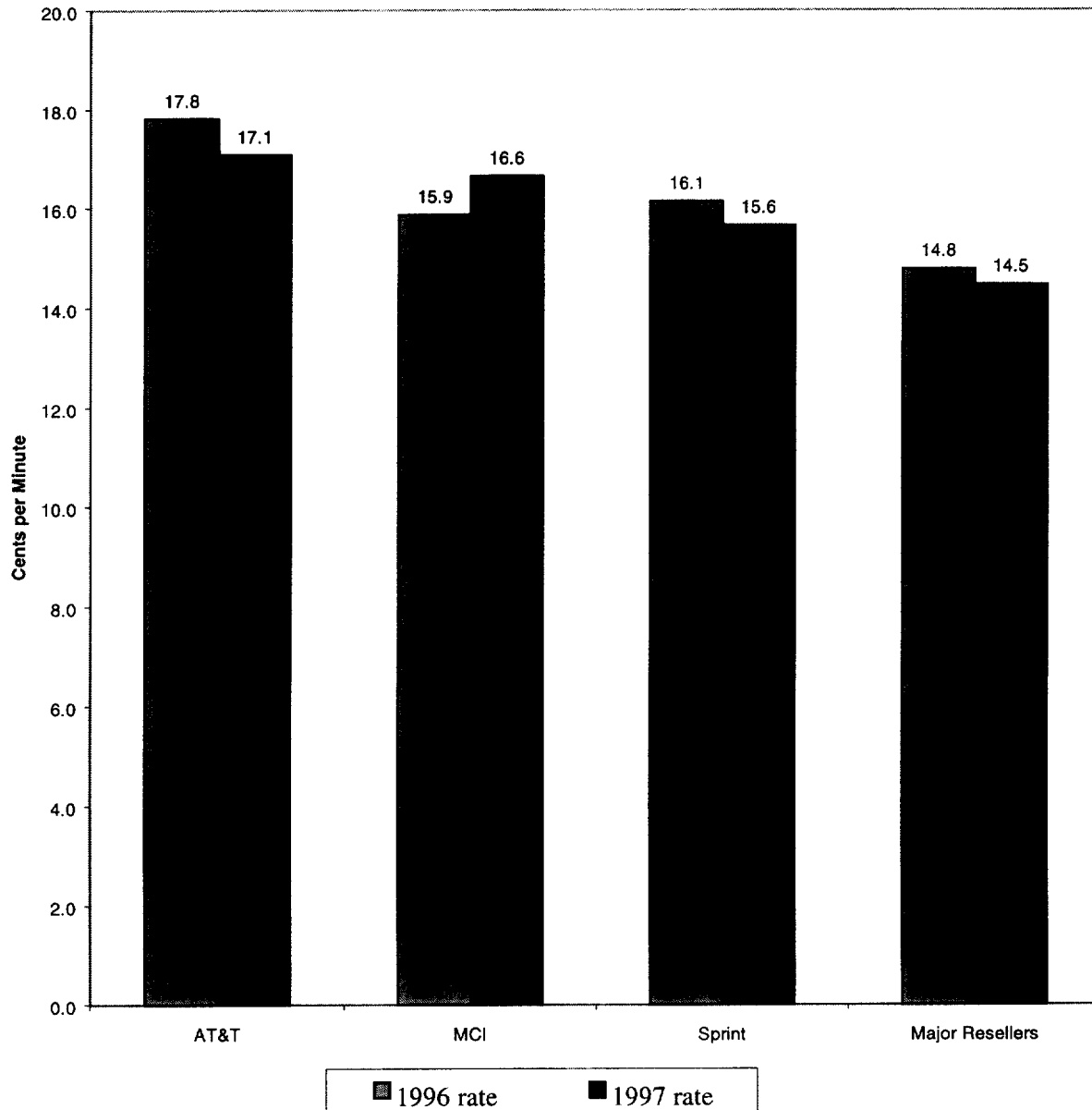
⁸¹ The 1996 data are from PNR and Associates' "Bill Harvesting III," Release 2 (May 1997), for a national sample of about 7,000 residence bills. The 1997 data are from Market Facts Inc., and PNR and Associates' *Market Share*TM database for 18,000 residence bills. Note that the 1996 results reported differ by small amounts from those we reported in our initial affidavit because we made the following refinements to our initial results: (1) to provide a more accurate ARPM comparison between long distance carriers that employ fractional minute billing and those that do not, we now round all fractional minutes less than 0.1 minute down, but those fractional minutes greater than or equal to 0.1 minute are rounded up (Previously we had rounded down all fractional minutes.); (2) we reduced the threshold for minimum valid customer ARPM from 0.5 cent to 0 cents per minute; and (3) we exclude LDDS WorldCom from the category of resellers.

| Usage Group/ (minutes per month) Carrier Group | 1996 ARPM (cents per minute) | 1997 ARPM (cents per minute) |
|---|---|---|
| All Customers | | |
| Big Three | 17.3 | 16.9 |
| Resellers | 14.8 | 14.5 |
| 1-40 | | |
| Big Three | 27.6 | 29.4 |
| Resellers | 24.0 | 22.1 |
| 41-125 | | |
| Big Three | 19.5 | 19.2 |
| Resellers | 16.2 | 15.9 |
| 126-275 | | |
| Big Three | 16.8 | 16.5 |
| Resellers | 14.8 | 14.5 |
| 276 or more | | |
| Big Three | 15.6 | 15.1 |
| Resellers | 13.4 | 13.3 |

95. In comparing the 1996 and 1997 data, we also find that pricing by the Big Three remains consistent with oligopolistic behavior, while resellers offered lower prices to consumers. For example, MCI raised its ARPM closer to AT&T's—narrowing the gap between them to only about 0.4 cent per minute, while the gap between Sprint and AT&T narrowed from about 1.7 cents to about 1.4 cents per minute. Exhibit 5 depicts this pattern for all usage groups taken together.

Exhibit 8

**1996 and 1997 Average Revenue per Minute for AT&T, MCI, Sprint,
and Major Resellers**



Source:

PNR and Associates, Inc., "Bill Harvesting" (1996 and 1997)

Major resellers include those specifically identified in this data base: Budget Call, Excel, LCI, Touch 1, USBI, and Vartec.

The following table shows these data for each usage group:

| Usage Group (minutes per month) & Carrier | ARPM (cents per minute) | |
|---|----------------------------|------|
| | 1996 | 1997 |
| All Customers | | |
| AT&T | 17.8 | 17.1 |
| MCI | 15.9 | 16.6 |
| Sprint | 16.1 | 15.6 |
| Resellers | 14.8 | 14.5 |
| 1-40 | | |
| AT&T | 26.5 | 27.8 |
| MCI | 31.1 | 36.8 |
| Sprint | 31.8 | 27.8 |
| Resellers | 24.0 | 22.1 |
| 41-125 | | |
| AT&T | 19.6 | 19.2 |
| MCI | 19.2 | 19.4 |
| Sprint | 18.8 | 18.2 |
| Resellers | 16.2 | 15.9 |
| 126-275 | | |
| AT&T | 17.3 | 16.8 |
| MCI | 14.8 | 15.8 |
| Sprint | 16.0 | 14.8 |
| Resellers | 14.8 | 14.5 |
| 276 or more | | |
| AT&T | 16.2 | 15.3 |
| MCI | 14.3 | 14.7 |
| Sprint | 14.7 | 14.4 |
| Resellers | 13.4 | 13.3 |

2. Statistical analysis of domestic interLATA direct dialed rates shows that resellers have priced more competitively than the Big Three.

96. As we pointed out in our previous affidavit, average revenue per minute data can be misleading since they do not account for changes in calling mix. As described in section B below, this problem is particularly severe in the ARPM data presented by MCI (e.g.,

Dr. Hall's analysis) and by AT&T because they mix together residence and business customer data for a large variety of services. In the data used above, which are confined to one class of customer and to a short time period, the shift in mix of services is probably limited to movement toward and among calling plans.

97. In fact, when we ran regressions to control for differences in calling mix, the results confirmed the ARPM analysis described above. In the regression analysis, we estimate ARPM as a function of variables that control for the percentage of calling that is international, intrastate, non-direct dialed calls, zero-duration calls, and off-peak, and for the state in which a call originates.⁸² Since rates tend to be lower for higher-volume customers, we also control for calling volume. We report the results implied by the regressions on 1996 and 1997 data in the table below. (Attachment 2 contains the regression coefficients from which we derived the results below.)

| Estimated ARPM Assuming Same Calling Pattern As AT&T | | |
|--|--------------------------|------|
| | Price per Minute (Cents) | |
| | 1996 | 1997 |
| AT&T | 17.8 | 17.1 |
| MCI | 15.2 | 16.7 |
| Sprint | 16.6 | 15.5 |
| Resellers | 16.0 | 15.1 |

98. The table indicates that:

- Resellers' 1996 prices averaged about 1.8 cents per minute lower than AT&T's for a comparable mix and volume of calls. In 1997, resellers widened the gap between their prices and AT&T's prices to about 2 cents per minute.
- In contrast, MCI effectively raised its residence rates by an average of about 1.5 cents per minute from about 15.2 cents in 1996 to about 16.7 cents per minute in 1997. This increase brought MCI's average domestic direct dialed rate to within 0.4 cent of AT&T's.

(Although this change may seem surprising to those who heed MCI's advertisements, it should be noted that, beginning in August 1996, MCI gradually (in steps) lowered the maximum discounts on its popular Friends and Family plan (for bills above \$24.99) from 25 percent to only 5 percent for calls to non MCI subscribers and from 35 percent to 10 percent for calls to other MCI subscribers by August 1997. MCI also lowered the discounts for those with calling volumes of \$9.50 to \$24.99 from 10

⁸² By "zero-duration calls" we mean calls which are billed per occurrence rather than by duration. Most of these calls are for directory assistance. The resellers identified in the data are Budget Call, Excel, LCI, Touch 1, USBI, and Vartec. The intercepts shown in Attachment 2 are for California, chosen as a default state because of its large traffic volume; we allow a different intercept for each state

The random component in each customer's average revenue per minute should decline as the customer's usage increases. Thus, we weight each observation by the customer's total minutes plus the number of zero-duration calls.

percent to 5 percent for calls to non-MCI subscribers and from 20 percent to 10 percent on calls to MCI subscribers.⁸³

- Thus, from 1996 to 1997 resellers' rates fell by about 0.2 cents relative to AT&T, while MCI's prices rose by about 2.1 cents per minute relative to AT&T.
- In contrast to MCI, the regression results suggest that Sprint's prices declined somewhat relative to AT&T's; nevertheless, resellers continued to charge less than Sprint in 1997.

99. Thus, the regression results confirm the results using the ARPM data. The major resellers offer genuine competition to the Big Three—and in 1997, their average charge per minute for the same mix of calls as the other firms was less than that of AT&T, MCI or Sprint.

C. Dr. Hall's ARPM analysis does not refute our analysis of long-distance pricing by the Big Three and other carriers.

100. Drs. Carlton and Sider claim that Dr. Hall's original affidavit addressed our analysis of long-distance pricing. Dr. Hall reports changes in MCI's average revenue per minute (ARPM) and claims that those data show that MCI has reduced rates by more than access charges declined.⁸⁴ His analysis of changes in ARPM provides misleading information, confusing rate changes and changes in the mix of services consumed. Such data combine residential and business customers, so they cannot refute our findings that the IXCs have been increasing rates for residential customers.

101. Furthermore, Dr. Hall's specific criticisms of our earlier analysis are incorrect. Dr. Hall claims that "the PNR sample is badly biased, through its construction, in favor of smaller users." (Hall, para 51) This criticism is incorrect:

- Dr. Hall appears to be unaware that the 1996 data from PNR and Associates, which serve as the basis for the analysis of AT&T's rate changes in our initial affidavit, included weights to make the sample representative. We used the weights in our calculations.⁸⁵ His criticism is, thus, moot.
- His theoretical point is quantitatively unimportant in any case. We have found that use of the weights affects the results only slightly.
- Dr Hall also comments that up to a quarter of residential customers make no toll calls in a given month. (Hall, para 51) Whether correct or not, that claim does not affect

⁸³ See "Dr. Bob's" Check Sheets (July 30, 1996, November 13, 1996 and "Dr. Bob's" Long Distance for Less Updates, various issues 4th quarter 1996 to 1st quarter 1998.

⁸⁴ Declaration of Robert E. Hall, in the matter of Applications of WorldCom. Inc, for Transfers of Control of MCI Communications Corporation, CC Docket No. 97-211, at pp. 13-18, 35-36.

⁸⁵ PNR and Associates constructed these weights using household data on age, income, household size, and census region.

any of our conclusions. A given customer's usage varies from one month to the next. Very few customers make no toll calls for an entire year, *i.e.*, the expected usage of almost all customers is positive. While some customers make no toll calls in a month—and thus their usage is below their mean in that month—others make more toll calls than their mean. A month's data is representative of the distribution of calling by all residential customers. Contrary to the impression he gives, Professor Hall's comment therefore does not imply that our statistics are invalid.

- Dr. Hall reports, “[a]ccording to PNR, about 54 percent of MCI residential customers spent \$10 or less on long distance. In the MCI data, the corresponding fraction is only 32.” He misinterpreted the data from PNR and Associates, so his test of its accuracy is invalid. What PNR and Associates gave MCI were data on the expenditures by customers who used MCI, whether presubscribed to MCI or not. Dr. Hall appears instead to be reporting data for presubscribed MCI customers.

V. CONCLUSION

102. WorldCom has offered an integrated nationwide service with end-to-end control and a variety of features and cost advantages that provide substantial benefits to resellers and consumers. Entrants are building some inputs required for telecommunications services, mainly the fiber backbone facilities; however, wholesale long-distance service requires much more than a fiber backbone and POPs. Thus, the entrants' efforts are unlikely to produce wholesale long-distance telephone services equivalent in cost, quality and features to WorldCom's service in time to prevent MCI/WorldCom from raising its prices by a significant amount. Further, the other members of the Big Four have not and are not likely to provide such services at prices comparable to those that WorldCom would have charged absent the merger because doing so would undermine their retail margins. By ignoring the distinction between WorldCom's service and the alternatives, Drs. Carlton and Sider overlook the way in which the merger would harm resellers. As we stated in our earlier affidavit:

Beyond the substantial increases in concentration and the likely increases in market power that would occur if the “Big Four” ... become the “Bigger Three”..., the merger would materially change ... WorldCom's ... incentives to provide capacity and services to resellers....

The merger would change how WorldCom serves residence and low-volume business customers from a predominantly non-vertically integrated wholesale provider that serves residence and low-volume business customers through resellers to an integral part of MCI's vertically-integrated residence and small business operations.

The impact ... would be magnified because it would transform WorldCom from a “maverick” supplier to smaller retail residence and small business service providers to a firm that closely matches the current Big Three.

Thus, in the residence and low-volume business market, in which conventional concentration measures would misleadingly suggest a smaller increase in concentration from the merger, the merger would facilitate continued oligopolistic price following because it would hinder resellers who disrupt the pricing practices of the current Big Three. These smaller firms use substantial amounts of WorldCom's wholesale services and facilities, and if WorldCom were integrated with a member of the collusive enterprise, the merged firm would be likely to raise wholesale prices or reduce wholesale services on the margin.⁸⁶

103. The resulting harm to wholesale service competition would undermine retail competition for the residence and low-volume business market, for which resellers have become an increasingly important competitive counter to the Big Three.

⁸⁶ Initial affidavit of Schmalensee and Taylor, paras 6-7.

Attachment 1
Development of Williams Long-distance Business

April 1985 to August 1995

May 1985: Initial decision to place fiber in decommissioned petroleum pipelines from Kansas city to Des Moines and Omaha to Chicago, the beginning of the WilTel Network Services

November 1985: Charter membership obtained by WilTel in the National Telecommunications Network (NTN), an organization of regional facilities-based telecommunications companies.

January 1986: Construction starts on WilTel western build, from Kansas City 2,000 miles to Los Angeles in pipeline-protected fiber and from Salt Lake City 800 miles to Portland (digital microwave).

January 1987: Western build from Kansas City to Los Angeles completed. National Society of Professional Engineers recognizes the project as one of the seven "Outstanding Engineering Achievements of 1986."

July 1987: Williams Telecommunications Group, Inc. formed through combination of Williams Telecommunications Co. and LDX Net, Inc. The LDX network owned by Kansas City Southern Industries, added 1,600 miles from New Orleans and Houston northward through Dallas, Kansas City, and St. Louis. KCSI retained 16 percent ownership in the new WilTel.

May 1988: WilTel completes acquisition of 400-mile RCI network from Chicago to Cleveland for \$58 million.

October 1988: Announcement of fifth major construction project by WilTel, a 430-mile build from Los Angeles to San Francisco.

January 1989: WilTel reaches agreement to acquire Houston Network, Inc., a switched long-distance services company providing service in Texas.

February 1989: WilTel announces it has entered into a definitive agreement to purchase the 4,500-mile LIGHTNET system in the eastern US for \$365 million. WilTel's East Link, a 600-mile fiber route from Cleveland to New York, becomes operational, giving WilTel an owned and operated nationwide network.

April 1989: Completion of LightNet acquisition gives WilTel an 11,000 mile plus digital network, the fourth largest in the United States after MCI, AT&T and Sprint.

May 1990: WilTel introduces the industry's first Fractional T3 service. WilTel introduces a DS-1 Test and Management System allowing it to non-intrusively monitor DS-1 circuits to isolate and correct trouble.

August 1990: WilTel and MCI announce a long-term agreement providing each with access to the other's fiber-optic network. The agreement provides WilTel with access to more than 30,000 system miles.

September 1990: WilTel introduces industry's first high-capacity, switched, digital private-line service. It is designed for on-demand and scheduled applications such as videoconferencing.

March 1991: WilTel becomes first interexchange carrier to offer a public frame relay service. The new WilPak product is developed for high-speed data applications such as interconnection of LANs.

October 1991: WilTel announces an agreement to acquire the carrier and one-plus customer bases of Telesphere Communications, Inc. giving WilTel the ability to deploy a national switched long-distance network. WilTel and NYNEX link their public frame relay networks in a trial that is the first frame relay interoperability test between a national interexchange carrier and a local exchange carrier.

February 1992: WilTel begins deploying Northern Telecom DMS 250 SuperNode switches to serve as a nationwide platform from which to offer a complete range of switched services for its carrier clients and its largest customers.

March 1993: WilTel announces a commercial Asynchronous Transfer Mode (ATM) service. The first ATM service is a channel networking service that packages both equipment and transmission.

October 1993: WilTel International deploys WilPak frame relay service to key financial centers in Europe and develops new strategic relationships with IDB WorldCom and Reuters to enhance its ability to serve business customers' global requirements.

May 1994: WilTel signs a letter of understanding to acquire Digital Communications of America, Inc. (DCA). The Oklahoma City company has been devoted exclusively to billing for the communications industry since 1987.

August 1994: Williams Companies states that it will accept a \$2.5 billion offer from LDDS Communications to acquire WilTel Network Services. Williams retains WilTel Communications Systems and Vyvx, WilTel business units.

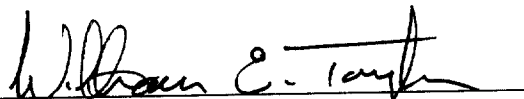
Source: <http://www.wcom.com/timeline.html>, visited on May 11, 1998.

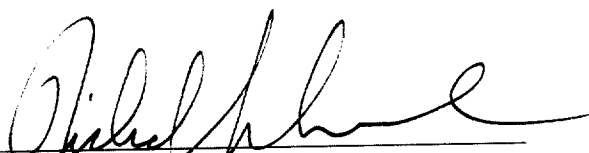
Attachment 2
Regression Results

Dependent Variable: Average Revenue Per Minute

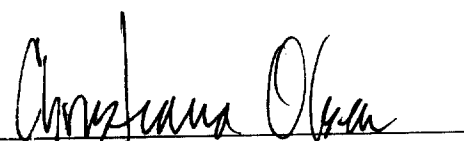
| Variable | | 1996 | 1997 |
|-------------------------------------|-------------|--------|--------|
| Intercept | Coefficient | 23.1 | 19.8 |
| | t statistic | 45.4 | 61.0 |
| MCI | Coefficient | -2.6 | -0.4 |
| | t statistic | 10.2 | 2.5 |
| Sprint | Coefficient | -1.2 | -1.6 |
| | t statistic | 3.4 | 6.4 |
| Resellers | Coefficient | -1.8 | -2.0 |
| | t statistic | 5.1 | 8.7 |
| International/Total Minutes | Coefficient | 65.1 | 47.9 |
| | t statistic | 61.2 | 69.5 |
| IntraLATA/Total Minutes | Coefficient | -4.2 | -5.2 |
| | t statistic | 9.4 | 18.7 |
| Non Direct Dial/Total Minutes | Coefficient | 16.9 | 24.4 |
| | t statistic | 35.9 | 81.0 |
| Intrastate InterLATA/Total Minutes | Coefficient | -0.6 | -0.8 |
| | t statistic | 1.7 | 3.8 |
| Zero-duration Calls/Total Minutes | Coefficient | 91.9 | 134.3 |
| | t statistic | 8.3 | 15.1 |
| Total Minutes + Zero-duration Calls | Coefficient | -0.005 | -0.002 |
| | t statistic | 16.8 | 19.8 |
| Evening/Night Minutes/Total | Coefficient | -10.1 | -7.2 |
| | t statistic | 21.7 | 23.4 |

See text for derivation and source of these data.


William E. Taylor


Richard Schmalensee

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 9th DAY OF June 1998.


Notary Public

My Commission expires September 18, 2003.